

DRAFT

Attachment # 1
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AGREEMENT

THIS AGREEMENT dated this 10th day of February, 2004, by and between LEON COUNTY, a political subdivision of the State of Florida, hereinafter referred to as the "County" and SUTRON CORPORATION, hereinafter referred to as the "Contractor."

WHEREAS, the County has determined that it would be in the best interest of the citizens of Leon County, Florida, that the County be able to utilize the services of private persons when such services cannot be reasonably provided by the County; and

WHEREAS, the County has determined that it would be better to contract for these services than to hire the necessary personnel to satisfy the needs of the County; and

WHEREAS, in order to secure the lowest cost for these services, the County has sought and received competitive bids from contractor for such services.

NOW, THEREFORE, the parties hereto agree as follows:

1. SERVICES TO BE PROVIDED

The Contractor hereby agrees to provide all materials and labor to establish a real-time rainfall data collection and monitoring network for the County in accordance with the scope of services and specifications for Leon County request for proposals number **BC-10-22-03-64**, attached hereto as Attachment 1, and Contractor's response, said response being incorporated into this agreement as if fully set out herein.

Contractor agrees that the following tasks shall be completed by the dates listed unless approved in advance in writing by the County:

Radio Path Survey and Licensing	Complete May 1, 2004
Gage and Radio Installation	Complete June 1, 2004
Base Stations Installation and Operational Test	Complete July 1, 2004
Project Completion	August 1, 2004

2. WORK

Any work to be performed shall be upon the written request of the County Administrator or his representative, which request shall set forth the commencing date of such work and the time within which such work shall be completed.

The performance of Leon County of any of its obligations under the purchase order or agreement shall be subject to and contingent upon the availability of funds lawfully expendable for the purposes of the purchase order or agreement for the current and any future periods provided for within the bid specifications.

3. TIME

The agreement shall be for a period of one (1) year, commencing on February 11, 2004, and shall continue until February 1, 2005.

4. CONTRACT SUM

The Contractor agrees that for the performance of the services as outlined above, it shall be remunerated by the County according to the payment schedule in Attachment 2 for a total sum of \$244,866.79 on completion of the work and acceptance of it as satisfactory. Further, for additional items and services requested in writing by the County that are above and beyond those in the scope of services, the Contractor shall be remunerated according to the unit prices contained in the Contractor's cost proposal attached hereto as Attachment 3.

5. PAYMENTS

The County will make such payments within thirty (30) days of submission and approval of invoice for services.

6. STATUS

The contractor at all times relevant to this Agreement shall be an independent contractor and in no event shall the Contractor nor any employees or sub-contractors under it be considered to be employees of Leon County.

7. INSURANCE

Contractor shall procure and maintain for the duration of the contract, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

1. Minimum Limits of Insurance. Contractor shall maintain limits no less than:

- a. General Liability: \$1,000,000 Combined Single Limit for bodily injury and property damage per occurrence with a \$2,000,000 annual aggregate. Completed operations coverage will be provided for a period of three (3) years beyond termination and/or completion of the project. Coverage must include bodily injury and property damage, including Premise/Operations: a per location aggregate, Broad Form Contractual liability; Broad Form Property Damage; Fire Legal liability; Independent Contractors coverage; Cross Liability & Severability of Interest Clauses; and Personal Injury (deleting employee and contractual exclusions), and coverage for explosion, collapse, and underground (X,C,U).
- b. Automobile Liability: One Million and 00/100 (\$1,000,000.00) Dollars combined single limit per accident for bodily injury and property damage. *(Non-owned, Hired Car).*
- c. Workers' Compensation Employers Liability: Insurance covering all employees meeting Statutory Limits in compliance with the applicable state and federal laws and Employer's Liability with a limit of \$500,000 per accident, \$500,000 disease policy limit, \$500,000 disease each employee. *Waiver of Subrogation in lieu of Additional Insured will suffice.*
- d. Professional Liability Insurance, including errors and omissions: for all services provided under the terms of this agreement with minimum limits of One Million and 00/100 (\$1,000,000.00) Dollars per occurrence; or claims made form with "tail coverage" extending four (4) years beyond the term of the agreement. Proof of "tail coverage" must be submitted with the invoice for final payment. In lieu of "tail coverage", Contractor may submit annually to the County a current Certificate of Insurance proving claims made insurance remains in force throughout the same four (4)-year period.
- e. Umbrella: \$5,000,000 combined single limit for bodily injury and property damage combined per occurrence and annual aggregate. The coverage shall provide excess coverage for employer's liability, general liability, including completed operations and auto liability.
- f. Installation Floater: In the amount of the estimated cost of materials necessary to complete the contract. Should include temporary location, job site, and in transit coverage.

- g. Mobile Equipment (Contractors Equipment) coverage should be in place while job is in process. Equipment should be covered whether owned, leased, borrowed, or rented by contractor or by employees of the contractor.

2. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the County. At the option of the County, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the County, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

3. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

a. General Liability and Automobile Liability Coverages (*County is to be named as Additional Insured*).

1. The County, its officers, officials, employees and volunteers are to be covered as additional insureds as respects; liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protections afforded the County, its officers, officials, employees or volunteers.
2. The Contractor's insurance coverage shall be primary insurance as respects the County, its officers, officials, employees and volunteers. Any insurance of self-insurance maintained by the County, its officers, officials, employees or volunteers shall be excess of the Contractor's insurance and shall not contribute with it. Contractor hereby waives subrogation rights for loss or damage against the county.
3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the county, its officers, officials, employees or volunteers.
4. The Contractor's insurance shall apply separately to each insured against whom claims is made or suit is brought, except with respect to the limits of the insurer's liability.
5. Companies issuing the insurance policy, or policies, shall have no recourse against the County for payment of premiums or assessments for any deductibles with are all at the sole responsibility and risk of Contractor.

b. All Coverages

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the County.

4. Acceptability of Insurers

Insurance is to be placed with insurers with a Best's rating of no less than A:VII.

5. Verification of Coverage

Contractor shall furnish the County with certificates of insurance and with original endorsements effecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the County before work commences. The County reserves the right to require complete, certified copies of all required insurance policies at any time.

6. Subcontractors

Contractors shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

8. PERMITS

The County shall pay for all necessary permits as required by law.

9. LICENSES

The Contractor shall be responsible for obtaining and maintaining his city or county occupational license and any licenses required pursuant to the laws of Leon County, the City of Tallahassee, or the State of Florida. Should the Contractor, by reason of revocation, failure to renew, or any other reason, fail to maintain his license to operate, the contractor shall be in default as of the date such license is lost.

10. ASSIGNMENTS

This Agreement shall not be assigned or sublet as a whole or in part without the written consent of the County nor shall the contractor assign any monies due or to become due to him hereunder without the previous written consent of the County.

11. PERFORMANCE BOND

A Performance Bond in the amount of 100% of the estimated project cost shall be supplied by the successful Contractor prior to contract execution. Also, a payment and material bond for the contract amount shall be supplied by the Contractor at the same time.

"Performance and Payment and Material Bonds shall provide that, in the event of non-performance on the part of the Contractor the bond can be presented for honor and acceptance at an authorized representative or institution located in Tallahassee, Florida. The performance bond **must** contain a clause stating the following:

In the event of non-performance on the part of the contractor this performance / payment and materials bond can be presented for honor and acceptance at _____ (address) _____, which is located in Tallahassee, Florida. "

12. HOLD HARMLESS

The Contractor agrees to indemnify and hold harmless the County from all claims, damages, liabilities, or suits of any nature whatsoever arising out of, because of, or due to the breach of this

agreement by the Contractor, its delegates, agents or employees, or due to any act or occurrence of omission or commission of the Contractor, including but not limited to costs and a reasonable attorney's fee. The County may, at its sole option, defend itself or allow the Contractor to provide the defense. The Contractor acknowledges that ten dollars (\$10.00) of the amount paid to the Contractor is sufficient consideration for the Contractor's indemnification of the County.

13. MINORITY BUSINESS ENTERPRISE (M/WBE) PARTICIPATION

The Contractor shall meet or exceed the M/WBE participation levels stated in the M/WBE Participation Statement included as part of the bid response for this project, except when the County Good Faith Committee approves an exception.

Any "Good Faith Statement" provided by a Contractor shall follow the requirements of the Florida Statutes, and must demonstrate through documentation that every reasonable effort has been made to achieve the requested percentage.

For those M/WBE firms listed in their bid, Contractors shall be responsible for securing proof of their M/WBE certification and providing copies to the County M/WBE Office.

Also required is a monthly reporting system of the work done by and payments made to certified minority business enterprises as a part of this project. The reports shall detail each invoice submitted to the County and a break down of payments to all subcontractors therein by M/WBE classification.

14. AUDITS, RECORDS, AND RECORDS RETENTION

The Contractor agrees:

- a. To establish and maintain books, records, and documents (including electronic storage media) in accordance with generally accepted accounting procedures and practices, which sufficiently and properly reflect all revenues and expenditures of funds provided by the County under this agreement.
- b. To retain all client records, financial records, supporting documents, statistical records, and any other documents (including electronic storage media) pertinent to this agreement for a period of five (5) years after termination of the agreement, or if an audit has been initiated and audit findings have not been resolved at the end of five (5) years, the records shall be retained until resolution of the audit findings or any litigation which may be based on the terms of this agreement.
- c. Upon completion or termination of the agreement and at the request of the County, the Contractor will cooperate with the County to facilitate the duplication and transfer of any said records or documents during the required retention period as specified in paragraph 1 above.
- d. To assure that these records shall be subject at all reasonable times to inspection, review, or audit by Federal, state, or other personnel duly authorized by the County.
- e. Persons duly authorized by the County and Federal auditors, pursuant to 45 CFR, Part 92.36(I)(10), shall have full access to and the right to examine any of provider's agreement and related records and documents, regardless of the form in which kept, at all reasonable times for as long as records are retained.
- f. To include these aforementioned audit and record keeping requirements in all approved subcontracts and assignments.

15. MONITORING

To permit persons duly authorized by the County to inspect any records, papers, documents, facilities, goods, and services of the provider which are relevant to this agreement, and interview any clients and employees of the provider to assure the County of satisfactory performance of the terms and conditions of this agreement.

Following such evaluation, the County will deliver to the provider a written report of its findings and will include written recommendations with regard to the provider's performance of the terms and conditions of this agreement. The provider will correct all noted deficiencies identified by the County within the specified period of time set forth in the recommendations. The provider's failure to correct noted deficiencies may, at the sole and exclusive discretion of the County, result in any one or any combination of the following: (1) the provider being deemed in breach or default of this agreement; (2) the withholding of payments to the provider by the County; and (3) the termination of this agreement for cause.

16. FINAL INSPECTION

The Contractor shall maintain all work in first-class condition until it has been completed as a whole and been accepted by Leon County. Upon seven (7) days notice from the Contractor of completion of this project, the Director of Engineering Services will set up a semi-final inspection with the Contractor, the Chief of Construction Management, the Chief of Engineering, the Project Engineer, and himself.

If, at the semi-final inspection, all construction provided for and contemplated by the agreement is found completed to the County's satisfaction, such inspection shall constitute the final inspection. If, however, at any semi-final inspection any work is found unsatisfactory, in whole or in part, the Contractor shall be given the necessary instructions as to the replacement of material and performance or re-performance, of work necessary and prerequisite as to final completion and acceptance, and the Contractor forthwith shall comply and execute such instructions. When all materials have been furnished, all work performed and all construction contemplated by the agreement satisfactorily completed, a written notice of final acceptance will be given to the Contractor.

17. GUARANTEE OF WORK

Except as otherwise specified, all work shall be guaranteed by the Contractor against defects resulting from the use of inferior materials, equipment or workmanship for one (1) year from the date of final acceptance in writing by the **PROJECT MANAGER**. No express warranty or guarantee contained herein shall in any way limit, avoid, displace, or modify any implied warranties or guarantees owed by the Contractor to the County.

If within the guarantee period, repairs or changes are required in connection with the guaranteed work, which in the opinion of the **NAME OF DEPARTMENT** Administrator is rendered necessary as the result of the use of materials, equipment or workmanship which are defective, or inferior, or not in accordance with the terms of the agreement, the Contractor shall promptly upon receipt of notice from the County, and without expense to the County:

- a. Place in satisfactory condition in every particular all of such guaranteed work, correct all defects therein.
- b. Make good all damage to the structure or site, or equipment or contents thereof, which in the opinion of the **NAME OF DEPARTMENT** Administrator is a result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the agreement.

- c. Make good any work or materials, or the equipment and contents or structures or site disturbed in fulfilling any such guarantee.

In any case where, in fulfilling the requirements of the agreement or of any guarantee, embraced in or required thereby, the Contractor disturbs any work guaranteed under agreement, he shall restore such disturbed work to conditions satisfactory to the **NAME OF DEPARTMENT** Administrator and guarantee such restored work to the same extent as it was guaranteed under the original agreement.

If the Contractor, after notice, fails to proceed within ten (10) working days to comply with the terms of the guarantee, the County may have the defects corrected and the Contractor and his surety shall be liable for all expenses incurred.

All special guarantees applicable to definite parts of the work which may be stipulated in the specifications or other papers forming a part of the agreement shall be subject to the terms of this paragraph during the first two (2) years of the life of such special guarantee. The Contractor hereby understands and agrees that none of the guaranties or warranties as to defects in materials, equipment, or workmanship set forth herein shall in any way limit or shorten the statutory limitations period during which the County can bring an action in law or equity against the Contractor for breach of this agreement. The Contractor further agrees that the limitations period for any action in law or equity which the County might bring against the Contractor for breach of this agreement shall not begin to run until the time at which the breach is actually discovered by the County.

18. TERMINATION

Leon County may terminate this Agreement without cause, by giving the Contractor thirty (30) days written notice of termination. Either party may terminate this Agreement for cause by giving the other party hereto thirty (30) days written notice of termination. The County shall not be required to give Contractor such thirty (30) day written notice if, in the opinion of the County, the Contractor is unable to perform its obligations hereunder, or if in the County's opinion, the services being provided are not satisfactory. In such case, the County may immediately terminate the Agreement by mailing a notice of termination to the Contractor.

19. PUBLIC ENTITY CRIMES STATEMENT

In accordance with Section 287.133, Florida Statutes, Contractor hereby certifies that to the best of his knowledge and belief neither Contractor nor his affiliates has been convicted of a public entity crime. Contractor and his affiliates shall provide the County with a completed public entity crime statement form no later than January 15 of each year this agreement is in effect. Violation of this section by the Contractor shall be grounds for cancellation of this agreement by Leon County.

20. PROHIBITION AGAINST CONTINGENT FEES

The Contractor warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the architect (or other) to solicit or secure this agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working for the architect any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this agreement.

21. NON-WAIVER

Failure by the County to enforce or insist upon compliance with any of the terms or conditions of this Agreement or failure to give notice or declare this Agreement terminated shall not constitute a general waiver or relinquishment of the same, or of any other terms, conditions or acts; but the same shall be and remain at all times in full force and effect.

22. REVISIONS

In any case where, in fulfilling the requirements of this agreement or of any guarantee, embraced in or required thereby it is necessary for the Contractor to deviate from the requirements of the bid, Contractor shall obtain the prior written consent of the County.

23. VENUE

Venue for all actions arising under this agreement shall lie in Leon County, Florida.

24. CONSTRUCTION

The validity, construction, and effect of this Agreement shall be governed by the laws of the State of Florida.

WHERETO, the parties have set their hands and seals effective the date whereon the last party executes this Agreement.

CONTRACTOR

WITNESS: _____ BY: _____
President

WITNESS: _____ DATE _____

(CORPORATE SEAL)

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____.

By _____, of _____
(Name of officer or agent, title of officer or agent) (Name of corporation acknowledging)

a _____ corporation, on behalf of the corporation. He/she is personally
(State or place of incorporation)

known to me or has produced _____ as identification.
(type of identification)

Signature of Notary

Print, Type or Stamp Name of Notary

Title or Rank

Serial Number, If Any

LEON COUNTY, FLORIDA

BY: _____
Jane G. Sauls, Chairman
Board of County Commissioners

DATE: _____

ATTEST:
BOB INZER, CLERK OF THE COURT
LEON COUNTY, FLORIDA

By: _____

APPROVED AS TO FORM:
LEON COUNTY ATTORNEY'S OFFICE

By: _____
Herbert W.A. Thiele, Esq.
County Attorney

ATTACHMENT A
SCOPE OF SERVICES

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FOUND IN SPEC 2003 CAFWN TECH SPEC

Capital Area Flood Warning Network

Project Description

Leon County (County) and the City of Tallahassee jointly fund a monitoring network in Leon County operated by the Northwest Florida Water Management District (District). The County has been awarded a grant to establish a real-time monitoring network, the Capital Area Flood Warning Network (CAFWN), which will include existing and new monitoring stations in the Leon County area. The funding for the project is through a grant from the Florida Department of Community Affairs Emergency Management Preparedness and Assistance Grants Program.

The project will establish the basic infrastructure for real-time rainfall data collection to facilitate the identification of developing flood conditions, notification for emergency managers and initiation of the appropriate emergency management response. The network will eventually support expansion to a broader gaging network for real-time stream and groundwater conditions to further improve the flood prediction capabilities of local, state, and federal emergency staff. These capabilities are crucial in providing adequate community warning of conditions warranting evacuation as well as flood-affected infrastructure.

The existing monitoring network was originally designed to provide data for a stormwater management study conducted by the District for the County and City. The study focused primarily on the major urban basins in the county and the locations of the monitoring stations do not provide adequate coverage of the outlying areas of the county for flood warning purposes. One of the goals of the CAFWN project is to expand the monitoring network to areas that do not currently have rain or stream gages.

The data transfer system will be designed to allow two-way communication between gaging sites and the central stations. The data display will be designed to accommodate separate public access to general data and remote, password-protected access by technical staff to the full data set through the Leon County Internet site.

Monitoring Network Design

The CAFWN real-time monitoring stations will have automated telemetry capability and will transmit data automatically to two centrally located base stations. The base stations will be located at the Leon County Courthouse and the National Weather Service (NWS) office on the Florida State University campus. All existing gage stations to be included in the real-time monitoring network shall be upgraded with new equipment to be provided by the vendor. A list of the station locations for the CAFWN is provided in Attachment 1.

The first 24 stations on the station list are to be included in the vendor proposals for the real-time monitoring network. Additional stations on the list may be included in the real-time network if funding is available. Stations will be added in sequential order starting with Station 25 on the list and include as many sites as possible with the available funding. The proposals should include a separate cost for including additional stations as an individual cost for each station.

Of the 24 stations to be included in the real-time network, thirteen of the stations are existing sites (site numbers 601- 634) and eleven of the stations will be new monitoring locations. The existing monitoring stations have station platforms and metal enclosures that can be utilized by the vendor when upgrading the stations to real time sites. The data recorder, sensors and batteries at the existing

stations will require replacement by the vendor. The vendor can choose what part of the existing station infrastructures to use, but is not required to use any.

The vendor shall include the cost for the labor, materials and overhead for complete installation of the real-time monitoring stations and telemetry system. This will include new data recorders, new rainfall and/or stage sensors, telemetry equipment, power supplies, enclosures and other equipment and supplies specified in the Technical Specifications. The vendor will be responsible for the providing all construction materials and supplies required for the project. The NFWFMD will provide staff to assist with location and construction of the monitoring stations at no cost to the successful vendor.

Vendors shall propose a method to provide full access to the data through the Internet in a secure manner to technical staff at remote sites. Access for the general public will be for a limited summary of the data in a standard display format. Leon County retains the right to provide display services in-house at the sole discretion of the County.

TECHNICAL SPECIFICATIONS

Remote Monitoring Station Data Recorder

Architecture and Memory

Each remote monitoring station included in the real-time network shall have a computerized data recorder with microprocessor architecture on printed circuit boards. The data recorders will have non-volatile flash memory (EEPROM) capable of retaining recorded data in memory in the event of a loss of power to the data logger or other operational problems causing recorder failure. The data will be stored in memory in circular FIFO (first in first out) process with the oldest data written over as memory is filled. The memory will be of sufficient size to store a minimum of 60 days of data for all possible time intervals for a rainfall sensor, water level sensor, temperature sensor, wind direction sensor, wind speed sensor and battery voltage (with date and time tags). Time intervals are described in the paragraph labeled "Operations Characteristics". The recorders will be housed in sealed NEMA-4 enclosures that are desiccated to remove moisture; moisture indicator cards shall be provided inside the enclosures. The stations will be visited monthly by NFWFMD to perform maintenance and replace desiccate as needed.

Connectors and Programming

All connections to the data recorders will be plug type captive connectors or screw type mechanical connections that require manual release for removal. The data recorders shall be able to be programmed and have data retrieved in the field by a laptop computer and with a serial port connection; at least three serial cables required for programming and data retrieval will be provided. The software for programming the data recorders and retrieving the data will be provided. The data recorders provided for each monitoring station will be identical and shall have the capability of being programmed to assign individual station identifications for each site.

Operational Characteristics

The data recorders will be remotely deployed in the field and shall be powered by a 12 volt re-chargeable sealed lead acid battery. The data recorders shall have analog and digital input capability and switch closure input for a tipping bucket rain gage. The recorder shall have the capability to

acquire process and store data from numerous types of sensors including: pressure transducer sensors, switch type tipping bucket rain gages, thermistor type temperature sensors, wind direction and speed sensors. It shall also be able to record the power supply battery voltage.

The intervals that the data are stored in the data recorders shall be programmable and user selectable and include at a minimum 5 min, 10 minute, 15 minute, 30 minute, 60 minute, 12 hour and 24 hour data recording intervals. The battery voltage recording interval can be programmable or at a fixed interval but it shall be reportable at least every 24 hours. Data will be stored internally in the data recorder and retrievable via lap top computer in comma delimited text format and include the date, time and value for each sensor. The data can be retrievable in a binary format, but a program must be provided to convert the data files to comma delimited text files.

The data recorders shall be connected to a real-time transmitter that will transmit data from each remote monitoring station to two locations, one at the Leon County Courthouse and one located at the NWS office on the Florida State University campus. The data recorder and transmitter must be capable of transmitting data on a user specified fixed time interval such as 15 minutes or on an event type basis.

The base station shall be capable of providing daily automatic clock updates to the data recorder program at all remote sites.

The data recorders shall have programmable output capability for controlling pumps, gates and other control devices. It shall have digital and 12 volt switched output capability.

Operational Requirements for Data Recorders

Power requirements: 12 v battery power supply for primary power source

Operational Temperature range: -20 to 50 deg C

Analog Inputs: Minimum 2 differential and 2 single ended inputs

Digital Inputs: Minimum 2 digital input ports

Switch Closure Input: Switch closure input for standard tipping bucket

Real Time Clock Accuracy: 1 minute per month maximum

Real Time Network Telemetry

All monitoring stations included in the real-time network will have two-way telemetry communications. The communication capabilities for the monitoring network will be similar to the functionality of ALERT networks with the addition of two-way communication capability. The two-way real time telemetry shall be capable of transmitting data automatically from each monitoring station at time intervals specified by the County. The system shall have the capability of transmitting data from each station on five minute interval.

In addition, the base station shall have the ability to communicate with a remote station to retrieve data for a specified period and to interrogate the remote station to determine if a problem exists. The telemetry system shall have the capability to add command and control functions in the future so that commands can be sent from a base station to control gates, pumps and other devices in the field.

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The telemetry communications shall have sufficient strength to transmit data during heavy rainfall events (10-inch per hour rain rates) such as can occur for brief intervals with tropical storms or other

local thunderstorms when the data is critically needed by managers and operations staff. A radio path survey or similar communications survey will be required to insure reliable communications for the real-time network. The vendor shall demonstrate that the telemetry method they propose has a proven track record for reliability and performance and has been used successfully on similar projects.

The costs for the telemetry communications shall be provided by the vendor. These costs shall include completion of the integrated system to operational status and costs for a radio path survey or similar communication survey. All license fees shall be included for the first year of operation for the entire monitoring network including all remote stations and base stations. Cost estimates for license fees for second year shall be provided. The vendor will be responsible for completing, submitting and obtaining approval for any FCC licenses or other licenses or permits required for the real-time communications network and include these costs in their proposal.

Remote Station Installations

Monitoring stations will be located in remote isolated areas and each station shall have a metal shelter box to protect the data recorders, transmitters, batteries and other equipment from vandalism to the extent possible. The shelter will have a hasp or similar mechanism that will allow the shelter to be secured with a standard padlock. The station installations shall be built or located in such a way to prevent inundation by flood water. The County or NFWFMD will provide guidance for locating the stations. All equipment and materials for the construction and installation of the monitoring stations shall be provided by the vendor. All field deployed equipment installed by the vendor including the shelters, transmitters, antennas, tipping bucket rain gages, solar panels, and cables will be mounted and secured to survive a wind of 100 mph intensity.

All data recorders, transmitters and other sensors or equipment susceptible to lightning damage will have lightning protection. The lightning protection will have a direct earth ground connection to dissipate the energy from lightning strikes.

Tipping Bucket Rain Gages

New tipping bucket rain gages shall be provided by the vendor for rainfall stations included in the real-time monitoring network. The rain gages shall be Hydrologic Services Pty. Ltd. TB3 or TB4 tipping bucket rain gages or equivalent rain gages. They shall be designed for operation in remote unattended locations. They shall meet or exceed the specifications listed below.

Tipping Bucket Rain Gage Specifications

Funnel:	7.87" (200mm) – 8.00" (203mm) Diameter,
Outer Enclosure:	Powder coated aluminum construction
Measurement Range:	0 to 27.6 inches/hr
Accuracy:	±2% @ 19.7 in/hr or better
Resolution:	0.01"
Measurement Units:	Inches
Contact:	Dual Reed Switch
Temperature Range:	0 – 70° C
Siphon:	Siphon mechanism to minimize error
Level:	Bulls eye level on base

Base: Die cast aluminum
Contact Time: 0.1 seconds
Filter: Stainless steel sieve filter designed to resist blockage
Insect Covers: Stainless steel mesh on all openings

Pressure Transducers Stage Sensors

The vendor will provide new submersible pressure transducers for stage stations included in the real-time network. The pressure transducers shall have a waterproof vented cable to provide atmospheric level compensation. The vented cable must be desiccated at the termination in the recorder shelter. The pressure transducers shall be 10 psi range, 4-20mA VDC type transducers with stainless steel, titanium or similar durable non-corrosive housing. Each transducer shall have a minimum of 50 feet of waterproof, submersible, vented cable. The sensors will have lightning surge protection. Strain gage pressure transducers are acceptable if the signal can be processed by the data recorder and they meet the operational and technical specifications.

The transducer cables will be housed in UV resistant electrical conduit that will be buried or anchored to the banks of the streams to prevent damage during high flow conditions. The transducer housings will be protected in a PVC protective housing. The NFWFMD will assist with the location and installation of the pressure transducers. The pressure transducers shall meet or exceed the specifications listed below.

Pressure Transducer Specifications

Pressure Range: 10 psi, 0'-20' range
Cable: 50' vented polyurethane jacketed, shielded cable
Power Supply: 12 VDC
Accuracy: ± 0.1 % Full scale
Output Signal: 4 - 20 mA
Dimensions: 1.5" outside diameter max.
Operational Temperature Range: -20 - 60° C

Power Supply

A 12 volt re-chargeable sealed lead acid battery with a minimum 8 amp hr capacity will be supplied for each remote monitoring station. A solar panel will be provided with sufficient size to maintain the operational battery voltage on a continuous basis for the data recorder, transmitter and all equipment and sensors at each station. A voltage regulator will be provided for each solar panel to prevent overcharging of the battery and discharge from the battery back to the solar panel. The solar panel will be mounted and positioned so it will not interfere with the operation of the tipping bucket rain gage or transmitter or any other equipment at the remote stations. All connectors, cables and parts required for the power supply will be provided. Similar 12 volt power supplies and solar panels will be provided for any field deployed telemetry equipment such as repeaters.

Replacement Equipment

A minimum of two pieces of spare equipment will be provided for field deployed equipment. This will allow for the rapid replacement of damaged or defective equipment in the event of a failure. This shall include data recorders, antennas, cables, transmitters and any other field deployed operational equipment in the real-time monitoring network. Only one spare set of repeater hardware will be required if repeater stations are used in the network. Replacement tipping bucket rain gages and pressure transducers shall not be required.

System Integration and Training

The selected vendor must provide total system integration, including, but not limited to: installation of the remote monitoring stations and associated equipment, installation of telemetry system equipment, programming and operational testing of all equipment and systems. Training will be provided for customer's field technicians in system familiarization, system integration procedures, troubleshooting, maintenance procedures and data downloading. The selected vendor shall provide onsite technical assistance at the County's request for twelve (12) months after the official system acceptance at no additional cost to the County. Vendor shall warrant that all equipment and installation work are free from any defects in material and workmanship under normal use and service for a period of one year from the date of official system acceptance. This includes replacing or repairing any products determined by the County to be defective at no cost to the County.

Onsite training for the operation and maintenance of the Base Station and Display Software shall be provided for a minimum of four (4) persons. This training shall cover, at a minimum: System operation, data archiving and retrieval methods, data file formatting and copying, "additional new" station activation, alarm limit functions, graphical interface parameters and trouble shooting procedures. The selected software provider shall provide telephone "Help" support for twelve (12) months after the official system acceptance at no cost to the County.

Manuals shall be provided for all system components in two printed, bound and indexed copies and one electronic copy in a common Acrobat Read PDF, Word for Windows or WordPerfect format.

Warranty

All equipment and supplies provided by the vendor will have a minimum one year warranty against defects in materials, workmanship and operational performance under normal use. The warranty period will start from the date when the equipment has been installed, tested and made operational by the vendor and has been accepted and approved by the County. Equipment determined by the County to be defective will be replaced by the vendor at no cost to the County.

Summary of Costs

Radio Path & Licensing	\$ 59,000.00
Rain Fall Only Stations (18 @ \$5,139.00)	\$ 92,502.00
Stream Gage Only Station	\$ 5,489.00
Rain Fall & Stream Gage Stations (5 @ \$6,279.00)	\$ 31,395.00
Base Station Equipment (2 @ \$9,953.00)	\$ 19,906.00
Support Costs	\$ 36,574.79

TOTAL \$ 244,866.79

Rainfall/Stream Gauging Station

Item	Part Number	Description	Unit Price	Qty	Price
1	9210-0000-1	Data Recorder, 9210 with Ext. LOS Radio Module	\$ 1,350.00	1	\$ 1,350.00
2	SP-01	Radio, VHF LOS, Specify Frequency	\$ 895.00	1	\$ 895.00
3	5100-0100-1	Enclosure, NEMA4, Steel 24X20X10	\$ 532.00	1	\$ 532.00
4	SP-02	Enclosure Mounting Hardware	\$ 95.00	1	\$ 95.00
5	SP-04	Cable Assy, Power, Internal	\$ 55.00	1	\$ 55.00
6	SP-05	Panel Assy, Enclosure	\$ 45.00	1	\$ 45.00
6	5000-0010	Battery, 12 VDC, 40 AH	\$ 80.00	1	\$ 80.00
7	6411-1172-1	Cable Assy, RF Jumper	\$ 45.00	1	\$ 45.00
8	1311-1057	Protector, Coax	\$ 70.00	1	\$ 70.00
9	SP-06	MS Connectors (2 sets)	\$ 150.00	1	\$ 150.00
10	5600-0425-6	Stainless Steel Rain Gauge (0.01 inch/tip)	\$ 675.00	1	\$ 675.00
11		Cable Assy, Tipping Bucket, 18 ft cable	\$ 15.00	1	\$ 15.00
12	SP-10	Rain Gauge Mounting Hardware	\$ 50.00	1	\$ 50.00
	SP-	Conduit for Raingauge Sensor 15 Ft	\$ 25.00	1	\$ 25.00
14	5000-0050-1	Antenna, YAGI VHF	\$ 187.00	1	\$ 187.00
15	SP-13	Antenna Cable, 10 Meters	\$ 105.00	1	\$ 105.00
16	5100-0410-1	Solar Panel, 20 Watt unregulated, 18 ft cable	\$ 270.00	1	\$ 270.00
18	5100-0407	Solar Panel Regulator, 4 amp continuous current	\$ 70.00	1	\$ 70.00
19	SP-14	Lightning/Grounding Protection Kit	\$ 75.00	1	\$ 75.00
20		Factory Final Assembly & Test	\$ 200.00	1	\$ 200.00
		Enclosure Mounting Mast (2 Inch Dia Mast)	\$ 150.00	1	\$ 150.00
		Civil Works	\$ -	1	\$ -
Quote Total (Shipping and Warranty Not Included)					\$ 5,139.00

Terms and Conditions

Shipping (Insurance & packaging)

Payment Terms

Delivery

Net 30 Days

120 Days Exworks

Rainfall/Stream Gauging Station

Item	Part Number	Description	Unit Price	Qty	Amount
1	9210-0000-1	Data Recorder, 9210 with Ext. LOS Radio Module	\$ 1,350.00	1	\$ 1,350.00
2	SP-01	Radio, VHF LOS, Specify Frequency	\$ 895.00	1	\$ 895.00
3	5100-0100-1	Enclosure, NEMA4, Steel 24X20X10	\$ 532.00	1	\$ 532.00
4	SP-02	Enclosure Mounting Hardware	\$ 95.00	1	\$ 95.00
5	SP-04	Cable Assy, Power, Internal	\$ 55.00	1	\$ 55.00
6	SP-05	Panel Assy, Enclosure	\$ 45.00	1	\$ 45.00
6	5000-0010	Battery, 12 VDC, 40 AH	\$ 80.00	1	\$ 80.00
7	6411-1172-1	Cable Assy, RF Jumper	\$ 45.00	1	\$ 45.00
8	1311-1057	Protector, Coax	\$ 70.00	1	\$ 70.00
9	SP-06	MS Connectors (2 sets)	\$ 150.00	1	\$ 150.00
	5100-0425-2	Dessicant Tube	\$ 20.00	1	\$ 20.00
	SP-	Conduit for Pressure Sensor (50ft)	\$ 150.00	1	\$ 150.00
13	SP-	Pressure Sensor, Submersible SDI-12 outputs w/50ft cable	\$ 995.00	1	\$ 995.00
14	5000-0050-1	Antenna, YAGI VHF	\$ 187.00	1	\$ 187.00
15	SP-13	Antenna Cable, 10 Meters	\$ 55.00	1	\$ 55.00
16	5100-0410-1	Solar Panel, 20 Watt unregulated, 18 ft cable	\$ 270.00	1	\$ 270.00
18	5100-0407	Solar Panel Regulator, 4 amp continuous current	\$ 70.00	1	\$ 70.00
19	SP-14	Lightning/Grounding Protection Kit	\$ 75.00	1	\$ 75.00
20		Factory Final Assembly & Test	\$ 200.00	1	\$ 200.00
		Enclosure Mounting Mast (2 Inch Dia Mast)	\$ 150.00	1	\$ 150.00
		Civil Works	\$ -	1	\$ -
Quote Total (Shipping and Warranty Not Included)					\$ 5,489.00

Terms and Conditions

Shipping (Insurance & packaging)

Payment Terms

Delivery

Net 30 Days

120 Days Exworks

Rainfall/Stream Gauging Station

Item #	Part #	Qty	Description	Unit Price	Qty	Total Price
1	9210-0000-1	69	Data Recorder, 9210 with Ext. LOS Radio Module	\$ 1,350.00	1	\$ 1,350.00
2	SP-01		Radio, VHF LOS, Specify Frequency	\$ 895.00	1	\$ 895.00
3	5100-0100-1		Enclosure, NEMA4, Steel 24X20X10	\$ 532.00	1	\$ 532.00
4	SP-02		Enclosure Mounting Hardware	\$ 95.00	1	\$ 95.00
5	SP-04		Cable Assy, Power, Internal	\$ 55.00	1	\$ 55.00
6	SP-05		Panel Assy, Enclosure	\$ 45.00	1	\$ 45.00
6	5000-0010		Battery, 12 VDC, 40 AH	\$ 80.00	1	\$ 80.00
7	6411-1172-1	4	Cable Assy, RF Jumper	\$ 45.00	1	\$ 45.00
8	1311-1057	135	Protector, Coax	\$ 70.00	1	\$ 70.00
9	SP-06		MS Connectors (3 sets)	\$ 200.00	1	\$ 200.00
10	5600-0425-6		Stainless Steel Rain Gauge (0.01 inch/tip)	\$ 675.00	1	\$ 675.00
11	6411-1017-4	85	Cable Assy, Tipping Bucket, 18 ft cable	\$ 15.00	1	\$ 15.00
12	SP-10		Rain Gauge Mounting Hardware	\$ 50.00	1	\$ 50.00
	5100-0425-2		Dessicant Tube	\$ 20.00	1	\$ 20.00
	SP-		Conduit for Raingauge & Pressure Sensor (50Ft)	\$ 150.00	1	\$ 150.00
13	SP-		Pressure Sensor, Submersible SDI-12 outputs w/50ft cable	\$ 995.00	1	\$ 995.00
14	5000-0050-1		Antenna, YAGI VHF	\$ 187.00	1	\$ 187.00
15	SP-13		Antenna Cable, 10 Meters	\$ 55.00	1	\$ 55.00
16	5100-0410-1		Solar Panel, 20 Watt unregulated, 18 ft cable	\$ 270.00	1	\$ 270.00
18	5100-0407		Solar Panel Regulator, 4 amp continuous current	\$ 70.00	1	\$ 70.00
19	SP-14		Lightning/Grounding Protection Kit	\$ 75.00	1	\$ 75.00
20			Factory Final Assembly & Test	\$ 200.00	1	\$ 200.00
			Enclosure Mounting Mast (2 Inch Dia Mast)	\$ 150.00	1	\$ 150.00
			Civil Works	\$ -	1	\$ -
Quote Total (Shipping and Warranty Not included)						\$ 6,279.00

Terms and Conditions

Shipping (insurance & packaging)

Payment Terms

Delivery

Net 30 Days

120 Days Exworks

Rainfall/Stream Gauging Station

Item	Part Number	Description	Unit Price	Qty	Price
1	9300-0000-2	XConnect Standard Database	\$ 4,998.00	1	\$ 4,998.00
2	SP-01	Radio, VHF LOS, Specify Frequency	\$ 995.00	1	\$ 995.00
3	SP-02	Power Supply	\$ 150.00	1	\$ 150.00
7	6411-1172-1	Cable Assy, RF Jumper	\$ 45.00	1	\$ 45.00
8	1311-1057	Protector, Coax	\$ 70.00	1	\$ 70.00
13	SP-	Pressure Sensor, Submersible SDI-12 outputs w/50ft cable	\$ 995.00	1	\$ 995.00
14	5000-0050-1	Antenna, YAGI VHF	\$ 1,000.00	1	\$ 1,000.00
15	SP-13	Antenna Cable, 100 Meters	\$ 1,000.00	1	\$ 1,000.00
19	SP-14	Lightning/Grounding Protection Kit	\$ 200.00	1	\$ 200.00
20		Miscellaneous	\$ 300.00	1	\$ 300.00
		Enclosure Mounting Mast (2 Inch Dia Mast)	\$ 200.00	1	\$ 200.00
		Civil Works	\$ 1,500.00	1	\$ 1,500.00
Quote Total (Shipping and Warranty Not Included)					\$ 9,953.00

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Net 30 Days
 120 Days Exworks

Rainfall/Stream Gauging Station

Item	Part Number	Quantity	Description	Unit Price	Qty	Price
1	9210-0000-1	69	Data Recorder, 9210 with Ext. LOS Radio Module	\$ 1,400.00	2	\$ 2,800.00
2	SP-01		Radio, VHF LOS, Specify Frequency	\$ 995.00	2	\$ 1,990.00
3	5100-0100-1		Enclosure, NEMA4, Steel 24X20X10	\$ 532.00	0	\$ -
4	SP-02		Enclosure Mounting Hardware to Tower	\$ 95.00	0	\$ -
5	SP-04		Cable Assy, Power, Internal	\$ 55.00	0	\$ -
6	SP-05		Panel Assy, Enclosure	\$ 85.00	0	\$ -
6	5000-0010		Battery, 12 VDC, 40 AH	\$ 80.00	2	\$ 160.00
7	6411-1172-1	4	Cable Assy, RF Jumper	\$ 45.00	2	\$ 90.00
8	1311-1057	135	Protector, Coax	\$ 70.00	0	\$ -
9	SP-06		MS Connectors (3 sets)	\$ 200.00	0	\$ -
10	5600-0425-6		Stainless Steel Rain Gauge (0.01 inch/tip)	\$ 675.00	0	\$ -
11	6411-1017-4	85	Cable Assy, Tipping Bucket, 18 ft cable	\$ 45.00	0	\$ -
12	SP-10		Rain Gauge Mounting Hardware	\$ 145.00	0	\$ -
	5100-0425-2		Dessicant Tube	\$ 20.00	2	\$ 40.00
	SP-		Conduit for Raingauge & Pressure Sensor (50Ft)	\$ -	0	\$ -
13	SP-		Pressure Sensor, Submersible SDI-12 outputs w/50ft cable	\$ 995.00	0	\$ -
14	5000-0050-1		Antenna, YAGI VHF	\$ 187.00	2	\$ 374.00
15	SP-13		Antenna Cable, 10 Meters	\$ 105.00	0	\$ -
16	5100-0410-1		Solar Panel, 20 Watt unregulated, 18 ft cable	\$ 270.00	2	\$ 540.00
18	5100-0407		Solar Panel Regulator, 4 amp continuous current	\$ 70.00	2	\$ 140.00
19	SP-14		Lightning/Grounding Protection Kit	\$ 180.00	0	\$ -
20			Factory Final Assembly & Test	\$ 500.00	0	\$ -
			Enclosure Mounting Mast (2 Inch Dia Mast)	\$ -	0	\$ -
			Civil Works	\$ -	0	\$ -
Quote Total (Shipping and Warranty Not Included)						\$ 6,134.00

Terms and Conditions

Shipping (Insurance & packaging)

Payment Terms

Delivery

Net 30 Days

120 Days Exworks